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ASTRONEBRIS TATAFILIUS (EURYALAE:
ASTERONYCHIDAE), A NEW GENUS AND SPECIES
OF OPHIUROID FROM THE ALEUTIANS, WITH A
REVISED KEY TO THE FAMILY ASTERONYCHIDAE

BY MAUREEN E. DOWNEY

Smithsonian Institution, Washington, D.C.

In recent years, some collections of invertebrates obtained by the Inter-American Tropical Tuna Commission have been deposited in the U. S. National Museum. Material from the North Pacific Ocean included three specimens of a new genus and species of ophiuroid, and these are described below. The specimens were found clinging to a thick, fleshy alcyonarian by means of their prehensile arms.

I wish to thank Dr. David L. Pawson, Curator-in-Charge, Division of Echinoderms, for his helpful criticism and advice, and Mr. Thomas Phelan, Division of Invertebrate Paleontology, for the excellent photographs.

Suborder EURYALAE Muller and Troschel, 1840

Family ASTERONYCHIDAE Verrill, 1899 (emend. Mortensen, 1933)

Astronebris new genus

Diagnosis: Disc and arms covered by thick skin; disc scales few, fragile. Arms roll into vertical coils; arm spines point downwards; no hooks on dorsal side of arms, but distal arm spines transformed into glassy hooks which lack a lamina and perforations.

Type-species: *Astronebris tatafilius* n. sp., by monotypy.

Etymology: The generic name is masculine, derived from the Greek *astro* (star) and *nebris* (fawn skin), referring to the soft integument. The specific name is in honor of Dr. David L. Pawson, who objected to "pawsoni."

Astronebris tatafilius new species

Description of holotype (Fig. 1a, b, c): Disc diameter, 11 mm, arms about 40 m long. Disc and arms covered by thick, soft skin. Disc circular, dorsal side depressed at center. Radial shields large, irregular

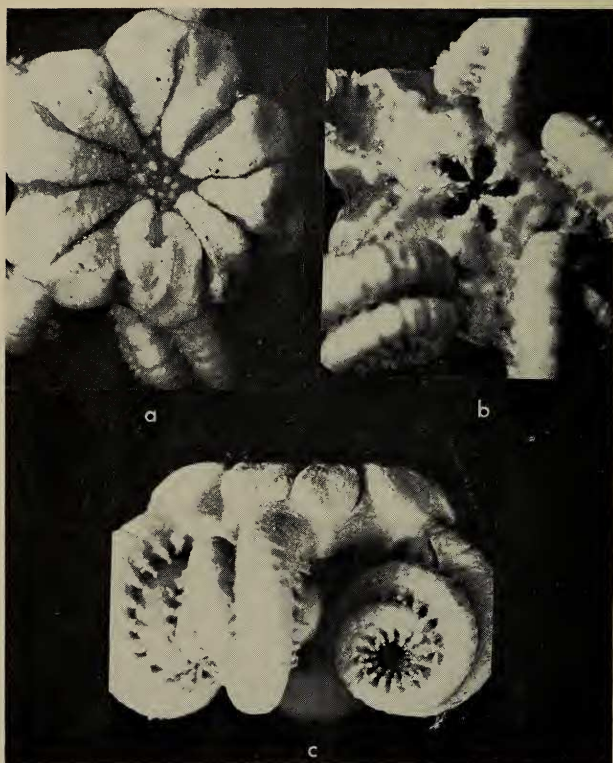


FIG. 1. *Astronebris tatafilius* holotype: a, dorsal aspect; b, ventral aspect; c, lateral aspect.

pyriform, sometimes fused in pairs, extending almost to disc center, with thin irregular plates along each side and over narrow proximal end. Disc center with few small, discrete, rounded plates. Ventral surface naked. Genital pores in each interradius conjugate. Genital shield smooth, curved, massive, with small round genital scale at proximal end. Oral shields minute, approximately triangular, mostly concealed by adoral plates; only shield with madreporite extends to gonopore. Adoral plates large, rectangular, partly overlapping first lateral arm plates. Oral plates similar to adoral plates, but smaller, al-

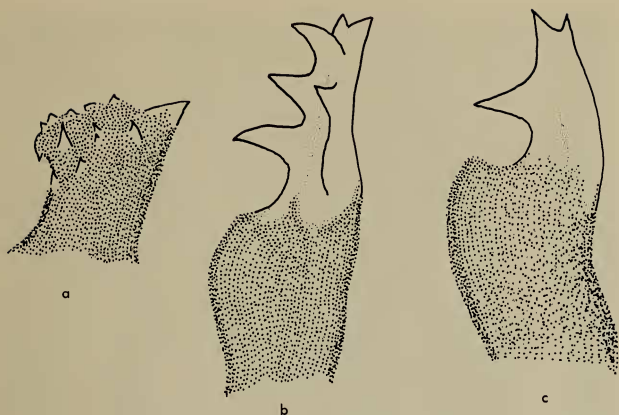


FIG. 2. *Astronebris tatafilius*: a, proximal arm spine of holotype; b, medial arm spine; c, distal arm spine.

most erect. Infradental papillae are 2 or 3 small granules on each side of jaw. Teeth strong, triangular, paired. Tooth papillae absent.

Arms vertically coiled, prehensile, length about 4 times disc diameter. Upper arm plates absent. Minute fragile scales occur over most of arm, but not in naked areas between joints. First ventral arm plate longer than broad, narrower proximally, extending well into mouth. Next few ventral arm plates broader than long, with lateral margins concave. Distal arm plates fragmented, fragile. Lateral arm plates tumid, oblique, ventrolaterally placed. Tentacle scales absent. Arm spines small, glassy (Fig. 2), partly concealed by skin, pointing downwards; 2 spines on proximal arm joints, 3 elsewhere. Proximal arm spines with small glassy pointed tubercles (Fig. 2a). Spines on mid-arm glassy, with several lateral teeth, slightly scooped (Fig. 2b). Distal arm spines with simple hook (Fig. 2c).

Paratypes: Disc soft, cushiony; raised and riblike radial shields concealed by thick, smooth integument. Gonopores appear single but are actually conjugate. One specimen with 4 arms (Fig. 3).

Holotype: USNM E10694 (dried specimen).

Paratypes: USNM E10695 (in alcohol), 2 specimens (one with 4 arms).

Type-locality: Amatingnale Island, Aleutians, 37 m, on fleshy pink gorgonian. Collected by Inter-American Tropical Tuna Commission, 13 July 1958.

Color in alcohol: When first received the types were fawn colored, with a tinge of pink on the discs, but they are now faded.

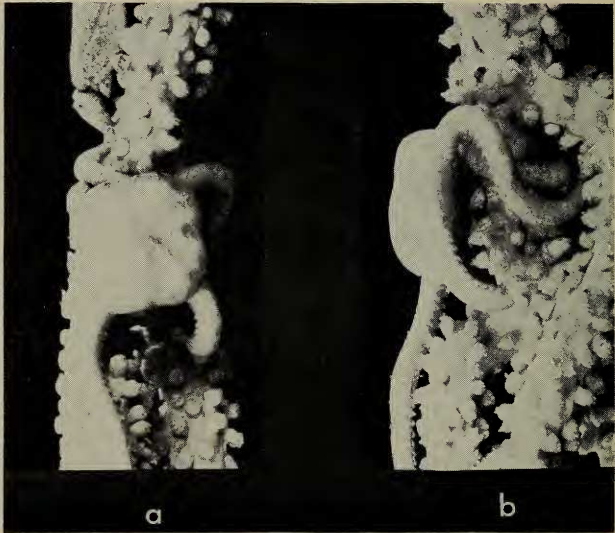


FIG. 3. *Astronebris tatafilius*, four-armed paratype *in situ* upon alcyonarian: a, dorsal aspect; b, lateral aspect.

Remarks: This genus is proposed to accommodate a new species of ophiuroid which has doubtful affinities. Because of the thin and fragile character of the scalelike plates, and the large areas of naked skin, *Astronebris* shares some features with members of the family Hemieuryalidae. It also bears some resemblance to the ophiomyxid genus *Ophioschiza* Clark, 1911, but *Ophioschiza* differs from *Astronebris* in having a flattened disc, covered with irregular plates; *Ophioschiza* further lacks oral shields (except the madreporic shield) and has a single genital pore in each interradius. *Astronebris* has three arm spines, while *Ophioschiza* has only one. *Ophioschiza* is obviously misplaced in the Ophiomyxidae, as Clark (1911) has already suggested, and in light of its apparent close relationship to *Astronebris*, it would seem that both genera can be referred readily to the family *Asteronychidae*.

Fell (1960, p. 11) included the genera *Asteronyx* Muller and Troschel, 1842, and *Astrodia* Verrill, 1899, in his key to the family Asteronychidae. The key must now be revised to incorporate the genera *Astronebris* and *Ophioschiza*.

Key to the Genera of the Family Asteronychiidae

- 1 (6) Three or more arm spines. Two genital pores in each inter-radius.
- 2 (5) Three arm spines, never hooked or hooked only on distal part of arm.
- 3 (4) Arm spines never hooked. Disc covered with numerous scales *Astrodia*
- 4 (3) Distal arm spines hooked. Disc scales few *Astronebris*
- 5 (2) More than 3 arm spines which (except for 3 inner ones) are modified as simple hooklets *Asteronyx*
- 6 (1) One arm spine; one genital pore in each interradius .. *Ophioschiza*

LITERATURE CITED

CLARK, H. L. 1911. North Pacific Ophiurans in the collection of the United States National Museum. U. S. Nat. Mus. Bull. 75, 225 p.

FELL, H. B. 1960. Synoptic Keys to the Genera of *Ophiuroidea*. Zool. Publ. Victoria Univ. Wellington, No. 26, 44 p.